

What is claimed is:

1. A method for direct localized therapeutic treatment of myocardial tissue in heart having a pathological condition comprising the steps of:
 - 5 a. identifying a target region of the myocardium;
 - b. applying material directly and substantially only to at least a portion of the myocardial tissue of the target region substantially identified in step (a) to physically modify the mechanical properties of said tissue.
- 10 2. The method of claim 1, wherein the modified mechanical properties include an increase in systolic performance.
- 15 3. The method of claim 1, wherein the modified mechanical properties include substantially no decrease in global diastolic performance.
4. The method of claim 1, wherein the material applied is passive.
5. The method of claim 1, wherein said target region includes a myocardial infarct.
- 20 6. The method of claim 1, wherein said target region at least in part underlies the papillary muscles associated with a cardiac valve.
- 25 7. The method of claim 6, wherein said cardiac valve is the mitral valve.
8. The method of claim 1, wherein said material applied to the myocardial tissue is a device.
- 30 9. The method of claim 1, wherein said material applied to the myocardial tissue comprises a polymer.

10. The method of claim 1, wherein said material applied to the myocardial tissue comprises a bioactive agent.

5 11. The method of claim 1, wherein said applying step is preceded by performing a mini-thoracotomy.

12. The method of claim 1, wherein said applying step includes applying material intramyocardially.

10 13. The method of claim 1, wherein said material applied to the myocardial tissue comprises a tension member having a first end and a second end, each of said ends provided with an anchor member.

15 14. The method of claim 1, wherein said material applied to the myocardial tissue comprises a braided ring.

15. The method of claim 1, wherein said material applied to the myocardial tissue comprises a plurality of sutures.

20 16. The method of claim 1, wherein said material applied to the myocardial tissue comprises a suture having two free ends and wherein the applying step comprises suturing said suture substantially around a perimeter of said portion of the myocardial tissue and pulling said two free ends to draw said 25 portion of the myocardial tissue together substantially toward a center of said portion of the myocardial tissue.

17. The method of claim 1, wherein said material applied to the myocardial tissue comprises an enclosure member having a first configuration 30 and a second configuration and wherein the applying step comprises positioning said enclosure member around said portion of myocardial tissue while said

enclosure member is in the first configuration and securing said enclosure member to the myocardial tissue after said positioning step, wherein said enclosure member reconfigures to the second configuration after said securing step.

5

18. The method of claim 1, wherein said material applied to the myocardial tissue comprises a plurality of sutures each having first and second ends, each of said first ends adapted to be attached to points on said myocardial tissue, and an enclosure member defining a space therein, wherein said plurality 10 of sutures extend through said space, and wherein said second ends are adapted to be attached to points on said myocardial tissue located outside said space.

19. The method of claim 1, wherein said material applied to the myocardial tissue comprises an enclosure member adapted to assume a first 15 configuration during application of said enclosure member to said portion of myocardial tissue, and to assume a second configuration after application of said enclosure member to said portion of myocardial tissue to draw said portion of tissue toward a center of the enclosure member.

20. The method of claim 1, wherein said material applied to the myocardial tissue comprises a biocompatible adhesive.

21. The method of claim 1, wherein said applying step comprises applying said material completely externally of the myocardium.

25

22. A method for direct localized therapeutic treatment of myocardial tissue in heart having a pathological condition comprising the steps of :

30 a. identifying a target region of the myocardium;
b. advancing an element across the septum of the heart to deliver material; and

c. applying said material directly and substantially only to at least a portion of the myocardial tissue of the target region substantially identified in step (a) to physically modify the mechanical properties of said tissue.

5

23. The method of claim 22, wherein the modified mechanical properties include an increase in systolic performance.

10 24. The method of claim 23, wherein the modified mechanical properties include substantially no decrease in global diastolic performance.

25. The method of claim 22, wherein the material applied is passive.

15 26. The method of claim 22, wherein said target region includes a myocardial infarct.

27. The method of claim 22, wherein said target region at least in part underlies the papillary muscles associated with a cardiac valve.

20 28. The method of claim 27, wherein said cardiac valve is the mitral valve.

29. The method of claim 22, wherein said material applied to the myocardial tissue is a device.

25

30. The method of claim 22, wherein said material applied to the myocardial tissue comprises a polymer.

30 31. The method of claim 22, wherein said material applied to the myocardial tissue comprises a bioactive agent.

32. The method of claim 22, wherein said applying step is preceded by performing a mini-thoracotomy.

33. The method of claim 22, wherein said applying step includes
5 applying material intramyocardially.

34. The method of claim 22, further comprising the step of performing an additional therapeutic or diagnostic procedure either before or after said applying step employing access to the heart gained during said advancing step.

10

35. The method of claim 34, wherein said additional therapeutic or diagnostic procedure is one or more procedures selected from the set consisting of pressure monitoring, angiography, ablation, placement of pacing leads, electrophysiology mapping, and placement of LVAD cannulae.

15

36. The method of claim 22, wherein said advancing step comprises advancing an element across the ventricular septum of the heart.

20

37. The method of claim 22, wherein said material applied to the myocardial tissue comprises a tension member having a first end and a second end, each of said ends provided with an anchor member.

38. The method of claim 22, wherein said material applied to the myocardial tissue comprises a braided ring.

25

39. The method of claim 22, wherein said material applied to the myocardial tissue comprises a plurality of sutures.

30

40. The method of claim 22, wherein said material applied to the myocardial tissue comprises a suture having two free ends and wherein the applying step comprises suturing said suture substantially around a perimeter of

5 said portion of the myocardial tissue and pulling said two free ends to draw said portion of the myocardial tissue together substantially toward a center of said portion of the myocardial tissue.

10 41. The method of claim 22, wherein said material applied to the myocardial tissue comprises an enclosure member having a first configuration and a second configuration and wherein the applying step comprises positioning said enclosure member around said portion of myocardial tissue while said enclosure member is in the first configuration and securing said enclosure member to the myocardial tissue after said positioning step, wherein said enclosure member reconfigures to the second configuration after said securing step.

15 42. The method of claim 22, wherein said material applied to the myocardial tissue comprises a plurality of sutures each having first and second ends, each of said first ends adapted to be attached to points on said myocardial tissue, and an enclosure member defining a space therein, wherein said plurality of sutures extend through said space, and wherein said second ends are adapted to be attached to points on said myocardial tissue located outside said space.

20

25 43. The method of claim 22, wherein said material applied to the myocardial tissue comprises an enclosure member adapted to assume a first configuration during application of said enclosure member to said portion of myocardial tissue, and to assume a second configuration after application of said enclosure member to said portion of myocardial tissue to draw said portion of tissue toward a center of the enclosure member.

30 44. The method of claim 22, wherein said material applied to the myocardial tissue comprises a biocompatible adhesive.

45. The method of claim 22, wherein said applying step comprises applying said material completely externally of the myocardium.